

RS1 Series

Fast Recovery Power Diodes



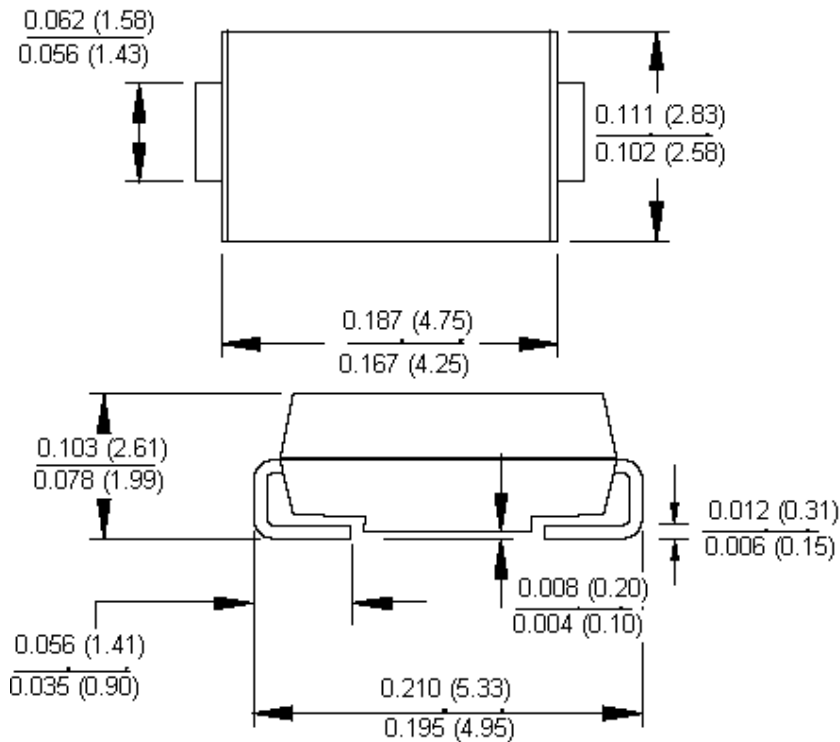
Features:

- For surface mounted application.
- Glass passivated junction chip.
- Built-in strain relief, ideal for automated placement.
- Fast switching for high efficiency.
- High temperature soldering: 250°C/10 seconds at terminals.

Mechanical Data:

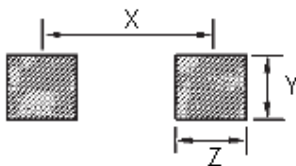
Cases : Moulded plastic.
Terminals : Solder plated.
Polarity : Indicated by cathode band.

SMA/DO-214AC



Dimensions : Inches (Millimetres)

Foot Print



Dimensions

Length	Width	Depth	X	Y	Z
5.33	2.83	2.61	4.1	1.7	1.8

Dimensions : Millimetres



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Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Type Number	RS1A	RS1B	RS1D	RS1G	RS1J	Unit
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	V
Maximum RMS Voltage	35	70	140	280	420	
Maximum DC Blocking Voltage	50	100	200	400	600	
Maximum Average Forward Rectified Current See Figure 1 at $T_L = 90^\circ\text{C}$	1.0					A
Peak Forward Surge Current, 8.3 ms Single Half Sinewave Superimposed on Rated Load (JEDEC method)	30					
Maximum Instantaneous Forward Voltage at 1.0A	1.3					V
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	5 50					μA
Maximum Reverse Recovery Time (Note 1)	150				250	nS
Typical Junction Capacitance (Note 2)	10					pF
Typical Thermal Resistance (Note 3) R θ JA R θ JL	105.0 32.0					$^\circ\text{C}/\text{W}$
Operating Temperature Range T_J	-55 to +150					$^\circ\text{C}$
Storage Temperature Range T_{STG}						

Notes:

- Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$.
- Measured at 1MHz and Applied $V_R = 4.0$ Volts.
- Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on PCB with 0.2" x 0.2" (5.0 x 5.0 mm) Copper Pad Areas.

Ratings and Characteristic Curves

Figure 1 Maximum Forward Current Derating Curve

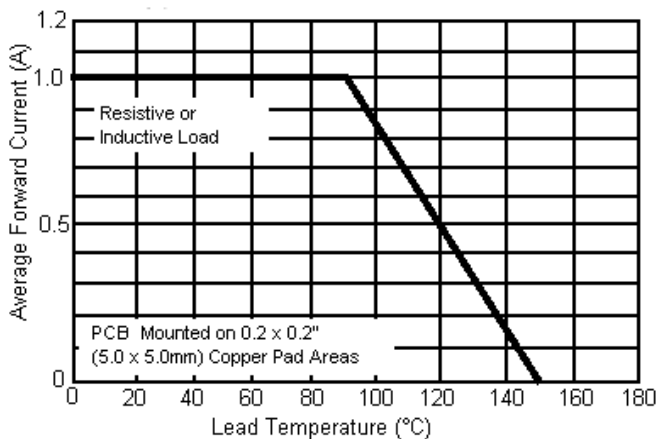
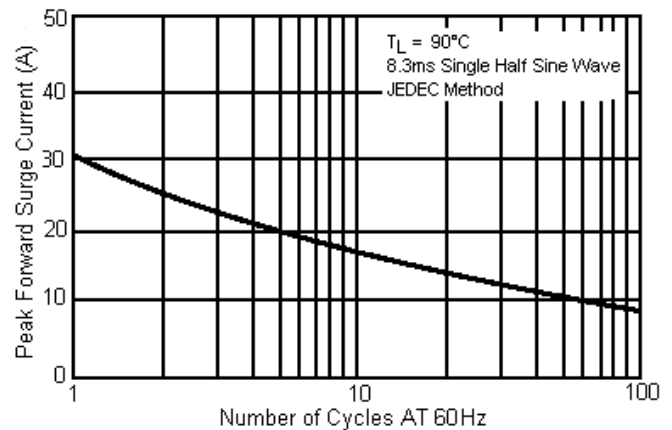


Figure 2 Maximum Non-Repetitive Forward Surge Current



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Figure 3 Typical Instantaneous Forward Characteristics Per Leg

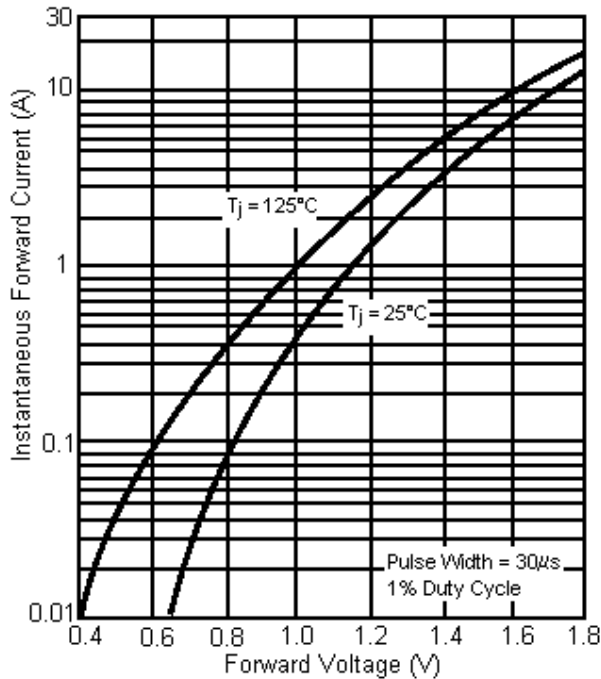


Figure 4 Typical Reverse Characteristics

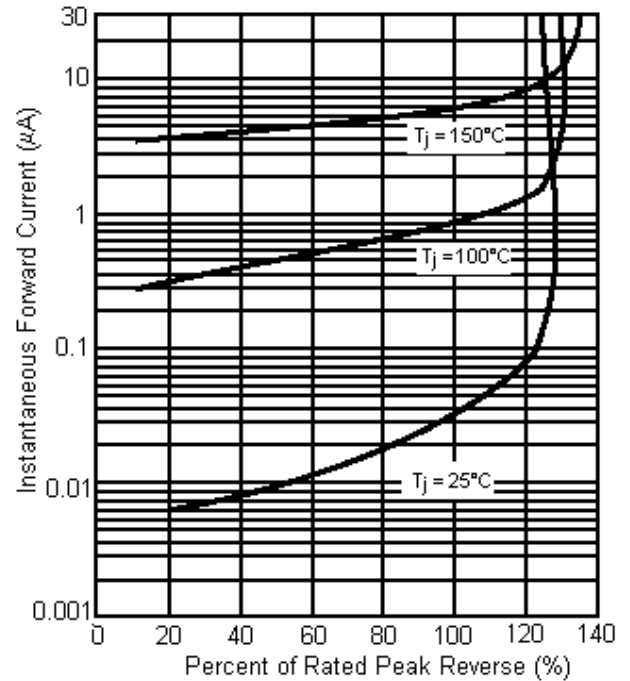
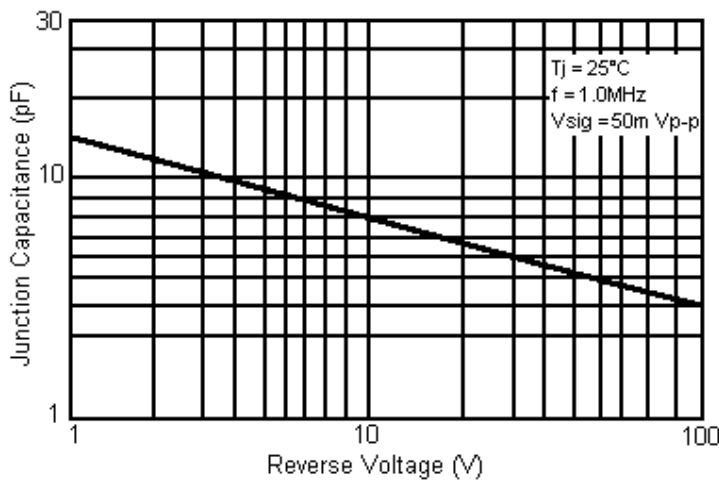


Figure 5 Typical Junction Capacitance



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Specifications

I_F (av) (A)	V_{RRM} (V)	I_{FSM} (A)	t_{rr} maximum (nS)	V_F (V) at $I_F = 1(A)$	Package	Part Number
1	50	30	150	1.3	DO-214AC (SMA)	RS1A
	100					RS1B
	200					RS1D
	400					RS1G
	600		250			RS1J



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Notes:

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